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FLIGHT OF "SOYUZ 10"

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ABSTRACT. The launching of the space station "Salyut" and its docking with the spacecraft "Soyuz 10" is described. After the program of experiments was completed, "Soyuz 10" was returned to the earth.

In conformance with a program of space research, an orbital scientific station "Salyut" was launched in the Soviet Union on April 19, 1971. /2*

The station was placed in an orbit close to the calculated orbit with the parameters: maximum distance from the Earth's surface (at apogee) — 222 kilometers; minimum distance from the Earth's surface (at perigee) — 200 kilometers; the period of revolution — 88.5 minutes; inclination of the orbit — 51.6°.

On the 23rd of April 1971 at 2:54 Moscow time, a rocket carrier with the spacecraft "Soyuz 10" was launched in the Soviet Union, piloted by a crew comprised of the ship commander, twice Hero of the Soviet Union, USSR cosmonaut Colonel Vladimir Aleksandrovich Shatalov, onboard engineer, twice Hero of the Soviet Union, USSR cosmonaut, candidate of technical sciences Aleksey Stanislavovich Yeliseyev, and test engineer Nikolay Nikolayevich Rukavishnikov.

After being placed on a near-terrestrial orbit, the cosmonauts checked the onboard system and made necessary preparations on the spacecraft for experiments with the "Salyut" station.

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*Numbers in the margin indicate pagination in the original foreign text.

Crew of the "Soyuz 10" in the cabin of the spacecraft.
From left to right: A. S. Yeliseyev, V. A. Shatalov and N. N. Rukavishnikov.

On the 24th of April, 4:47 Moscow time, the spacecraft "Soyuz 10" was joined with the "Salyut" orbiting station. The docking process was carried out in two stages. In the first stage, under an automatic control regime, the craft approached to within 180 meters of the station. Further approach and berthing were conducted by the crew. /3

The flight of the space station - spacecraft system while docked lasted 5 hours and 30 minutes. During the course of flight, the onboard system was checked out, and dynamic characteristics were evaluated.

After completing the above experiments, the crew undocked and separated the "Soyuz 10" ship from the station.

With the help of outer television cameras aboard the "Soyuz 10", pictures of the "Salyut" station and the individual elements of its construction were televised to Earth during the joint flight and during separation of station and spacecraft.

In the course of the joint flight with the orbital scientific station "Salyut", several studies were conducted on verifying the operational ability of the systems for interrelated research, and on further connecting, berthing, docking and undocking of the spacecraft and orbiting station.

After completing the program of experiments, operations for preparing for the descent of "Soyuz 10" to Earth were performed. The crew carried out the necessary orientation of the craft, and at 1:59 Moscow time, the retro rockets were started. After the engine completed its operation and the spacecraft sections were detached, descent of the spacecraft to Earth started. After aerodynamic braking in the atmosphere, the parachute system was put into operation, and immediately before reaching Earth, the soft landing engine was activated.

On 25 April 1971, at 2:40 Moscow time, after fulfilling its program of scientific technical research with the "Salyut" station, the spacecraft

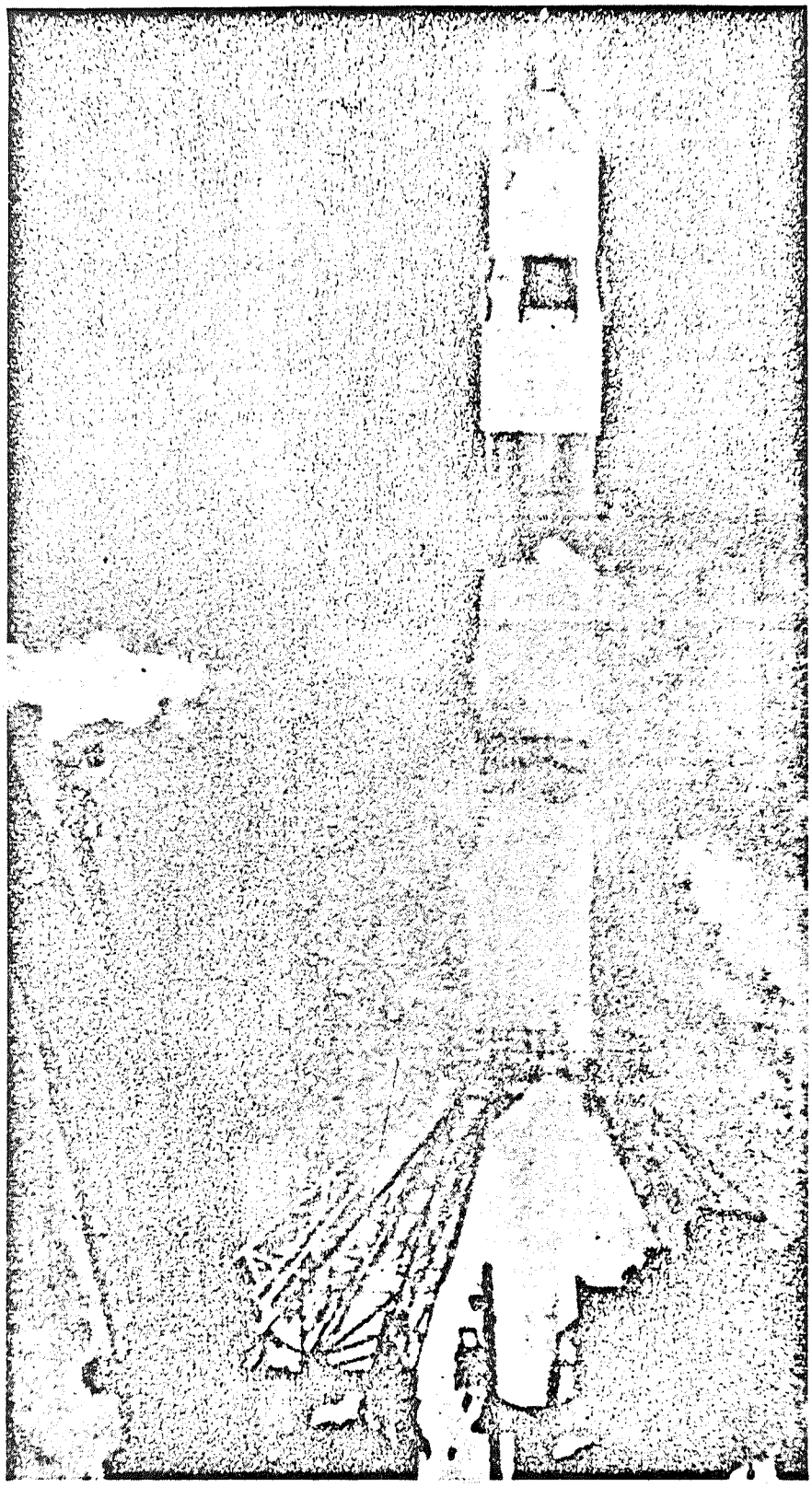

Figure 2.

Start of the spacecraft "Soyuz 10".

Tass telephoto.

"Soyuz 10" completed a soft landing in the USSR, 120 kilometers northwest of Karaganda.

Research conducted during this flight was one step in a general program with the scientific orbital station "Salyut".

From a Tass dispatch.

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